Name: Rachel Fischhoff Grade: 5 Date: May 1, 2012

13-1 Solids

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| Lesson Sources: Envision |
| Lesson Objectives: Students will be able to identify solids according to their faces, edges, and vertices. |
| Standards: M(G&M)–5–3 **Uses properties or attributes** (shape of bases, number of lateral faces, or number of bases) **to identify, compare, or describe three-dimensional shapes** (rectangular prisms, triangular prisms, cylinders, spheres, pyramids, or cones). (State) |
| Multicultural Content: |
| Materials and Advanced Preparation: |
| Prior Knowledge and Skills Needed: knowledge of some polygons |
| Key/New Vocabulary: solid: three dimensional shape, face: flat surface, edge: line segment where two faces meet, vertex: point where more than one edge intersects |

Lesson Procedure: Part One

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| **Time** | **Teacher Actions** | **Student Learning Activities** | **Form of Assessment** |
| 1 min | **1. Connection**   * We have been working with two dimensional figures. Today, you will learn to describe three dimensional figures, like cubes, cones, and cylinders. * What are examples we see in everyday life of cubes, cones, and cylinders? * How could you describe a cube to someone who couldn’t see it—without using the word cube? Think for a moment, then turn and talk to a partner * *Share out* | Explain purpose of mini-lesson |  |
| 10 min max | **2. The Teaching (The Giving of Information):**   * You have shared some great ideas. Now I want to share with you the mathematical vocabulary that we can use to describe a cube—or any solid—to someone who can’t see it. * Faces—flat surfaces * Edges—line segment where faces intersect * Vertex—point where two edges intersect * A prism is a specific kind of solid that has two bases that are the exact same shape and size. A cube is one example. * Let’s look at this triangular prism. When we name a vertex, a point where two edges meet, we use a single letter—A, B, C, X, Y, Z. * When we name edges, which are line segments, we use the same notation as when we were labeling line segements earlier. * When we name faces, we offer the shape and then the points that mark that shape: Triangle ABC, quadrilateral ABYX | * What will students do to take in the information? | * How will you know what students taking in? |
|  | **3. Have-A-Go (optional)**   * Thumb on your knee when you know how many faces are in this triangular prism. * How many vertices? * How many edges? * Now take a look at this triangular pyramid. With a partner, identify the vertices, faces, and edges and record them in your notebook. * Share out | How will students be actively involved?  By:   * Practicing the mini-lesson * Partner Talk | * Conferring * Share out |
|  | **4. The Link**  Today, you will use what you know about faces, edges, and vertices to describe solids. You will work independently to solve problems 4-12. If you complete these problems, check your work with another student, then let me know. | **(Workshop Time)**   * Working independently to solve problems in book * Extension work if finished. | * Applying strategies practiced on the rug |
|  | **5. Closing (at the share)**  More real life examples  Go over tricky problems | * Sharing what made sense, what is still tricky | * Reviewing examples… |
| **Anticipated Responses/Outcomes:**   * What range of responses are you looking for? * What kinds of strategies do you think students will use? * How will stronger and weaker students work through activity? | | | |

**Reflections:**

How did the lesson plan work? What was effective? What did you learn? What would you change for tomorrow or the next time you will use this plan?